

# Novo™ Series: Model 460

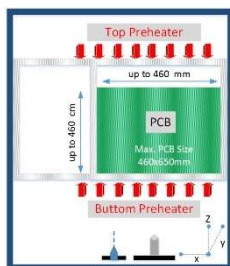
## Selective Soldering with combined Flexibility and Modularity

### Features and Benefits

- Choice of single or dual drop-jet fluxers and solder pots for either simultaneous parallel or independent double processing modes
- Parallel processing significantly increases machine throughput while double processing broadens soldering flexibility
- Software control between different solder alloys without changing solder pots
- Standalone platform with combined fluxing, preheating and soldering for highest possible process flexibility
- Full titanium solder pots compatible with all solder alloys plus easy tool-free maintenance

Designed for a wide variety of selective soldering applications, the Novo™ 460 offers exceptional value with superior process capabilities and is ideally suited for cell manufacturing. The Novo™ 460 has many unique features, including drop-jet fluxing, IR preheating and selective soldering with fast and easy programming and machine setup.

**Versatility.** With its flexible configuration, the Novo™ 460 is a versatile selective soldering platform and can be equipped for either single, parallel or double processing. Use of a single drop-jet fluxer and solder pot allows soldering of printed circuit boards as large as 460 x 460 mm (18.1 x 18.1 in.).



Novo™ 460S flux, preheat and soldering configuration

When configured with dual drop-jet fluxers and dual solder pots, the Novo™ 460 can be used in two different modes and is capable of processing up to 2 boards at one time. The parallel processing mode enables fluxing and soldering of two printed circuit



boards at the same time doubling machine productivity.



Novo™ 460PD flux, preheat and soldering configuration

The double processing mode allows soldering with multiple size nozzles within the same program enhancing flexibility and increasing productivity. A single drop-jet fluxer and dual solder pots can be used in the double processing mode and is ideally suited for the use of two different solder alloys without requiring physical changing of solder pots.

**Value.** With a reputation for innovation, comprehensive process solutions from Nordson SELECT ensure a maximum return on investment and low cost of ownership. From initial process development through full-scale production, you are supported by our experienced worldwide engineering, applications development and technical service network.



## Novo™ 460 Features

The Novo™ 460 is a fully configured selective soldering platform and is a reliable and cost-effective solution for many demanding through-hole and SMT mixed-technology soldering applications including:

- Double-sided TH/SMT assemblies
- TH selective and mini-wave soldering
- Multiple solder alloy soldering without changing solder pots

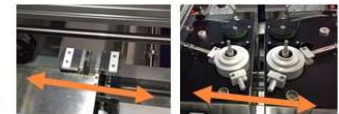
**Parallel or double processing** modes with dual fluxers and solder pots for simultaneous or independent soldering



Parallel mode solders two boards at same time, double mode allows multiple size nozzles in one program

**Full titanium solder pots** and pump assemblies compatible with all solder alloys

**Single or dual fluxers** and solder pots for increased productivity and flexibility



Automatically adjustable nozzle distance between 80-240 mm

**Standalone platform** with combined fluxing, preheating and soldering for high process flexibility

**MicroDrop drop-jet fluxer** standard and available dual MicroDrop drop-jet fluxers

**Two-way loading and unloading** for fast and ergonomic operation



### Standard Features

Standalone platform with combined fluxing, preheating and single selective soldering station (460S)  
Two-way loading and unloading system for PCB frames  
Solder frame for printed circuit boards  
MicroDrop drop-jet fluxer  
Nitrogen preheating  
All titanium solder pot and pump assembly  
Quick change magnetically coupled solder nozzle  
Automatic solder pot level monitoring  
Automatic wave height monitoring  
PhotoScan editor and machine control software

- Easy “point-and-click” programming
- Remote machine control
- Remote machine maintenance
- Network and FIS capability

TFT monitor

### Additional Configurations

Dual MicroDrop drop-jet fluxers and dual solder pot and pump assemblies for parallel or double soldering modes (460PD)

### Optional Features

Flux level sensing system  
In-process, closed-loop flux verification system for drop-jet control  
Full surface topside infrared preheating  
Full surface bottom-side infrared preheating  
Closed-loop pyrometer control  
Process viewing camera and second monitor  
Automatic solder wire feeding system  
Automatic solder level sensing system  
Wave height control sensing system  
Automatic solder nozzle cleaning system  
Data logging system with traceability of all process parameters  
Barcode reader

# Specifications: Novo™ 460

## Motion System

Z accuracy	±50 µm (0.002 in.)
Z repeatability <sup>(1)</sup> :	±50 µm (0.002 in.), 3 sigma
Z velocity:	0.05 m/s peak (2 in./s)
X-Y accuracy	±50 µm (0.002 in.)
X-Y repeatability <sup>(1)</sup> :	±50 µm (0.002 in.), 3 sigma
X-Y velocity:	0.2 m/s peak (8 in./s)

## Computer

PC with Windows® operating system

## Software

PhotoScan “point-and-click” programming editor and machine control software

## Solder Pot Capacity and Weight

Capacity <sup>(2)</sup>: Approx. 12.0 kg (26.4 lbs.)  
Total weight of tin-lead solder together with solder pot and pump assembly <sup>(2)</sup>: Approx. 22.4 kg (49.2 lbs.)  
Total weight of lead-free solder together with solder pot and pump assembly <sup>(2)</sup>: Approx. 19.7 kg (43.3 lbs.)

## Solderable Area (X-Y)

Single, parallel or double operating mode <sup>(3,4)</sup>:  
Max. 460 x 460 mm (18.1 x 18.1 in.)

## Board Handling Capability

Max. board size: 460 x 46 mm (18.1 x 18.1 in.)

## Board Clearance

Max. overboard clearance: 120 mm (4.7 in.)  
Max. underboard clearance: 40 mm (1.5 in.)

## Facilities Requirements

System footprint: 1700 x 2104 mm (66.9 x 82.8 in.)  
Compressed air: 6 bar min., 8 bar max.  
Power (mains) <sup>(5)</sup>: Power supply accommodates 3 phase, 400VAC, 50-60 Hz, 2-12 kW, 9-20 A  
Nitrogen: 99.99% (4.0) pure, 4-6 bar, 1.3 m<sup>3</sup>/hour (single pot), 2.6 m<sup>3</sup>/hour (dual pot)  
Ventilation: Rear 150 m<sup>3</sup>/hour, 100 mm (4.0 in.) dia. duct  
System weight <sup>(6,7)</sup>: 900 kg (1985 lbs.)

- (1) Repeatability is measured at full rated system speed.
- (2) Solder capacity and total weight of solder pot and pump assembly varies depending on solder alloy.
- (3) Board size is reduced when operating in parallel or double modes
- (4) Contact factory regarding smaller or larger boards/carriers.
- (5) Electrical power varies depending on configuration.
- (6) System weight varies depending on configuration.
- (7) Configuration dependent. Other configurations may be available. Contact Nordson SELECT.

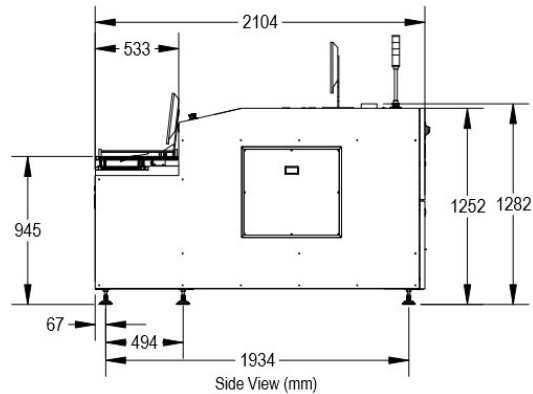
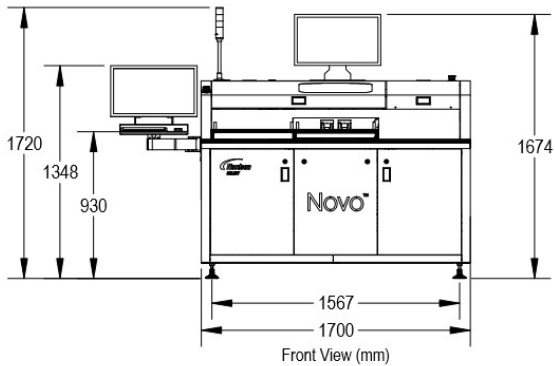
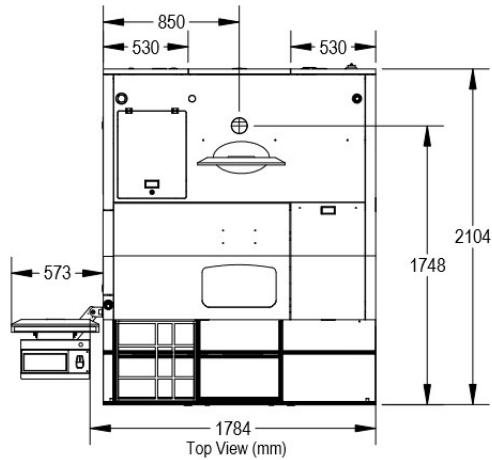
Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

## Standards Compliance

SMEMA, CE

**Additional options may be available: contact Nordson SELECT for further information.**

Dimensions are in millimeters



**For more information, speak  
with your local representative  
or contact your regional office.**

[Nordsonselect.com](http://Nordsonselect.com)

**North America**

*Headquarters*

Spokane Valley, WA, USA

+1.509.924.4898

[info@nordsonselect.com](mailto:info@nordsonselect.com)

**China**

Email:

[info@nordsonselect.com](mailto:info@nordsonselect.com)

Shanghai

+86.21.3866.9166

Beijing

+86.10. 8453.6388

Guangzhou

+86.20.8554.9996

**Europe**

Maastricht, Netherlands

+31. 43.352.4466

[info@nordsonselect.com](mailto:info@nordsonselect.com)

**Japan**

Tokyo

+81.3.5762.2801

[Info@nordsonselect.com](mailto:Info@nordsonselect.com)

**Korea**

Seoul

+82.31.765.8337

[info@nordsonselect.com](mailto:info@nordsonselect.com)

**India**

Chennai

+91. 44.4353.9024

[info@nordsonselect.com](mailto:info@nordsonselect.com)

**S.E. Asia/Australia**

Singapore

+65.6796.9514

[info@nordsonselect.com](mailto:info@nordsonselect.com)

**Taiwan**

+886.229.02.1860

[info@nordsonselect.com](mailto:info@nordsonselect.com)

**Nordson SELECT, Inc.**

**Germany Office**

**+49 (0) 7273 949466 0 Phone**

**[sales.eu@nordsonselect.com](mailto:sales.eu@nordsonselect.com) Email**

**Perläckerstraße 11**

**76767 Hagenbach**

**Germany**

**[www.nordsonselect.com](http://www.nordsonselect.com)**

**Published 2017-09-11**